

THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today  
(1) was not written for publication in a law journal and  
(2) is not binding precedent of the Board.

Paper No. 33

UNITED STATES PATENT AND TRADEMARK OFFICE

---

BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

---

***Ex parte*** DOUGLAS M. RUTAN,  
CURTIS E. SCOTT, JEANNINE A. WOYANSKY  
and  
KATHERINE L. MCGINNIS

---

Appeal No. 95-3288  
Application 08/148,020<sup>1</sup>

---

ON BRIEF

---

Before THOMAS, HAIRSTON and FLEMING, ***Administrative Patent Judges***.

---

<sup>1</sup> Application for patent filed November 4, 1993. According to appellants, the application is a continuation of Application 07/806,803, filed December 6, 1991, abandoned; which is a continuation of Application 07/539,638, filed June 18, 1990, abandoned.

Appeal No. 95-3288  
Application 08/148,020

FLEMING, *Administrative Patent Judge*.

### **DECISION ON APPEAL**

This is a decision on appeal from the final rejection of claims 1, 5 through 7, 9 through 13, 15 through 18 and 22 through 28, all of the claims pending in the present application. Claims 2 through 4, 8, 14, 19 through 21 and 29 have been canceled.

The invention relates to an improved shield for high pressure sodium vapor lamps. More particularly, the invention relates to an improved shielding of the getter using a ceramic disk located between the arc tube and getter. The ceramic disk shields the getter from radiation emitted by the arc tube. On page 11 of the specification, Appellants disclose that the shield is shown as element 88 in Figure 2 and is optically opaque, heat-resistant and thermally stable, electrically non-conductive and non-outgassing. Appellants disclose on page 12 of the specification, that shield 88 is shown in greater detail in Figure 4 and is made of a sintered polycrystalline alumina ceramic disk. The shield is made about 1mm thick of sintered polycrystalline alumina of from 94-96%  $\text{Al}_2\text{O}_3$  with the remainder

being primarily SiO<sub>2</sub> and perhaps a minor amount of sintering aids.

The independent claim 1 is reproduced as follows:

1. A high pressure sodium vapor arc discharge lamp which comprises a hermetically sealed, light transmissive,

vitreous outer envelope containing (i) a light transmissive, hermetically sealed ceramic arc tube enclosing within an amalgam of sodium and mercury, an inert starting gas and a pair of electrodes in spaced apart relationship, (ii) a getter sensitive to radiation emitted by said arc tube, said getter having been flashed from a getter containing ring onto said envelope by means of RF flashing, and (iii) an optically opaque, heat-resistant and electrically insulative alumina shield located within said outer envelope between said arc tube and said getter which shields said getter from radiation emitted by said arc tube and which is located close enough to said getter ring and in a manner such that it would have interfered with said RF flashing of said getter if it had been electrically conductive, said lamp also having means for providing electricity to said electrodes.

The Examiner relies on the following references:

King	3,420,593	Jan. 7, 1969
Scott, Jr. et al. (Scott)	3,935,495	Jan. 27, 1976
Davis et al. (Davis)	3,979,633	Sept. 7, 1976
Osteen	4,137,484	Jan. 30, 1979
Charles et al. (Charles)	4,285,732	Aug. 25, 1981
Phillipp et al. (Phillipp)	4,221,993	Sept. 9, 1980
Strok	4,580,075	Apr. 1, 1986
Aelterman et al. (Aelterman)	4,910,427	Mar. 20, 1990
Carleton	5,008,583	Apr. 16, 1991

Claims 1, 5 and 23 stand rejected under 35 U.S.C.

Appeal No. 95-3288  
Application 08/148,020

§ 103 as being unpatentable over Scott in view of Aelterman, Charles and either Davis, King or Carleton. Claims 6, 7, 9 through 11, 12, 25, 13, 15 through 17 and 27 stand rejected under 35 U.S.C. § 103 as being unpatentable over Scott in view of Aelterman, Osteen, Charles and either Davis, King or Carleton. Claim 18 stands rejected under 35 U.S.C. § 103 as being unpatentable over Scott in view of Aelterman, Osteen, Charles and either Davis, King or Carleton and further in view of Strok. Claims 22, 24, 26 and 28 stand rejected under 35 U.S.C. § 103 as being unpatentable over Aelterman, Carleton, Osteen, Phillipp, Charles and either Davis or King.

Rather than reiterate the arguments of Appellants and the Examiner, reference is made to the brief and answer for the respective details thereof.

#### ***OPINION***

We will not sustain the rejection of claims 1, 5 through 7, 9 through 13, 15 through 18 and 22 through 28 under 35 U.S.C. § 103.

#### ***ANALOGOUS ART***

Appeal No. 95-3288  
Application 08/148,020

Appellants argue that the Charles disclosure of improved alumina is not analogous art. Appellants maintain that Charles does not pertain to the same field endeavor as Appellants' field of high pressure discharge lamps and that Charles is not concerned with the problems faced by Appellants.

In determining whether a claim would have been obvious at the time of the invention, the Examiner must first determine the scope and content of the prior art. ***Graham v. John Deere***

***Co.***, 383 U.S. 1, 17, 148 USPQ 459, 467 (1966). "Although § 103 does not, by its terms, define the 'art to which [the] subject matter [sought to be patented] pertains,' this determination is frequently couched in terms of whether the art is analogous or not, *i.e.*, whether the art is 'too remote to be treated as prior art.'" ***In re Clay***, 966 F.2d 656, 658, 23 USPQ2d 1058, 1060 (Fed. Cir. 1992) ***citing In re Sovish***, 769 F.2d 738, 741, 226 USPQ 771, 773 (Fed. Cir. 1985).

In making this determination, we must consider two criteria. First, it must be determined if the prior art is from the same field of endeavor, regardless of the problem addressed. Secondly, even if the prior art is not in the same field of

endeavor, it must be determined whether the reference still is reasonably pertinent to the particular problem with which the inventor is involved. ***In re Clay***, *supra*, 966 F.2d at 658-659, 23 USPQ2d at 1060. With respect to the field of endeavor, there is little dispute that Charles is not within the same field of endeavor as high pressure discharge lamps. However, Charles may still be analogous if it is "reasonably pertinent to the particular problem with which the inventor is involved." ***Id.*** See also ***In re Paulsen***, 30 F.3d 1475, 1481, 31 USPQ 2d 1671, 1675-76 (Fed. Cir. 1994).

The Examiner has showed that the prior art reference, Aelterman, is concerned with providing a shield for a high pressure discharge lamp that is heat resistant and electrically insulative. Aelterman teaches that mica provides these desirable characteristics. The Examiner also showed that the prior art references, Davis, King or Carleton, teach that ceramic provides these desirable characteristic and serves as a shield in lamps. Thus, the prior art would have led those skilled in the art to consult the ceramic arts for a suitable material to provide a suitable shield in the high pressure discharge lamp. Thus, we find that Charles, a teaching within the ceramic arts, is

reasonably pertinent and therefore we find that the references applied are analogous.

### ***Combinability***

Appellants also argue on pages 11-13 of the brief that there is no basis to combine Charles with the other cited references and if they were combined they do not teach an optically opaque alumina shield. It is the burden of the Examiner to establish why one having ordinary skill in the art would have been led to the claimed invention by the express teachings or suggestions found in the prior art, or by implications contained

in such teachings or suggestions. ***In re Sernaker***, 702 F.2d 989, 995, 217 USPQ 1, 6 (Fed. Cir. 1983). "Additionally, when determining obviousness, the claimed invention should be considered as a whole; there is no legally recognizable 'heart' of the invention." ***Para-Ordnance Mfg. v. SGS Importers Int'l, Inc.***, 73 F.3d 1085, 1087, 37 USPQ2d 1237, 1239 (Fed. Cir. 1995), ***cert. denied***, 117 S.Ct. 80 (1996) ***citing W. L. Gore & Assocs.,***

*Inc. v. Garlock, Inc.*, 721 F.2d 1540, 1548, 220 USPQ 303, 309  
(Fed. Cir. 1983), **cert. denied**, 469 U.S. 851 (1984).

We note that Charles teaches an optically translucent alumina ceramic. See column 1, lines 4-5. We note that all of the Appellants' claims recite "optically opaque, heat-resistant and electrically insulative alumina shield." We note that Charles is entirely concerned with solving the problem of providing an optically translucent alumina ceramic. In column 1, lines 21-48, Charles teaches that it is known in the prior art that MgO, at a small level, is a necessary constituent in alumina ceramics if a high degree of translucency is to be obtained in the sintering process. Charles further teaches that the prior art processes result in an excess of MgO which forms second phase inclusions. These second phase inclusions are undesirable as they contribute to light scattering and decrease the degree of translucency. Charles discloses in column 2, lines 5-30, a process that ensures the proper amount of MgO so as to provide an optically translucent alumina.

Furthermore, we fail to find any suggestion of using the Charles ceramic as an optically opaque, heat-resistant and



electrically insulative alumina to shield the getter from radiation emitted by an arc tube in a high pressure sodium vapor lamp as recited in Appellants' claims. The Federal Circuit states that "[t]he mere fact that the prior art may be modified in the manner suggested by the Examiner does not make the modification obvious unless the prior art suggested the desirability of the modification." ***In re Fritch***, 972 F.2d 1260, 1266 n.14, 23 USPQ2d 1780, 1783-84 n.14 (Fed. Cir. 1992), ***citing In re Gordon***, 733 F.2d 900, 902, 221 USPQ 1125, 1127 (Fed. Cir. 1984). "Obviousness may not be established using hindsight or in view of the teachings or suggestions of the inventor." ***Para-Ordinance Mfg.***, 73 F.3d at 1087, 37 USPQ2d at 1239, ***citing W. L. Gore***, 721 F.2d at 1551, 1553, 220 USPQ at 311, 312-13.

We fail to find any suggestion in Charles that suggests that the Charles ceramic has the needed characteristic to use as the claimed shield in a lamp. Charles is only concerned with

optical translucent transmission properties which are not properties needed to solve the shielding problem. Therefore, we find that the Examiner has failed to show that the prior art

Appeal No. 95-3288  
Application 08/148,020

suggested the desirability of the modification as suggested by  
the Examiner.

We have not sustained the rejection of claims 1, 5  
through 7, 9 through 13, 15 through 18 and 22 through 28 under 35  
U.S.C. § 103. Accordingly, the Examiner's decision is reversed.

***REVERSED***

JAMES D. THOMAS	)	
Administrative Patent Judge	)	
	)	
	)	
	)	BOARD OF PATENT
KENNETH W. HAIRSTON	)	APPEALS AND
Administrative Patent Judge	)	INTERFERENCES
	)	
	)	
	)	
MICHAEL R. FLEMING	)	
Administrative Patent Judge	)	

Appeal No. 95-3288  
Application 08/148,020

Stanley C. Corwin  
General Electric Company  
Nela Park  
Cleveland, OH 44112